OGDEN ARSENAL, PELLETING MAGAZINE
(OGDEN ARSENAL, BUILDING 2142)
(OGDEN ARSENAL, BUILDING 1142)
(OGDEN ARSENAL, MUNITIONS STORAGE BUILDING)
East Side of Lemon Street
Layton Vicinity
Davis County
Utah

HAER No. UT-84-BH

HAER
UTAH
6-LAY.V,
1BH-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

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Location: East Side of Lemon Street, Hill Air Force Base, Layton Vicinity, Davis County, Utah

UTM: 12-415340-4555640

Date of Construction: 1941

Architect: Unknown

Builder: Unknown

Present Owner: Hill Air Force Base

Present Use: Munitions

Significance: Building 2142 housed chemical pelleting activities that supported the manufacture of munitions at Ogden Arsenal during World War II. It provides vivid insight into the processes involved in the manufacture of munitions and contributes to an understanding of the U.S. Army build-up which occurred on the eve of and during World War II.

History: The introduction of various types of ammunition manufacture at Ogden Arsenal during World War II necessitated the construction of many new buildings which took various forms as related to their specific functions within the overall manufacture and storage processes. Building 2142, in conjunction with Building 2141, contained the pelleting facilities for loading 37mm anti-tank ammunition produced at Ogden Arsenal during World War II. Tetryl was processed in Building 2142, while Tracer and Igniter components were processed in Building 2141[1].

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[1]For a discussion of Tracer and Igniter components, see the individual building report for Building 1946, the Tracer and Igniter Composition Building.

Because of its very high melting point, Tetryl was pressed into pellets rather than melted and cast. Small quantities of blended Tetryl were transferred from a rest house to Building 2142 in one-pint rubber cups and placed next to pelleting machines inside the small rooms. Pelleting presses that were converted from pharmaceutical uses produced pellets with a consistent size and density that could easily be loaded into the ammunition bodies in the Loading & Assembly Line Building (Building 2114).

Building 2142 was designed by the Picatinny Arsenal and customized to suit the needs of Ogden Arsenal. Each building of this type was constructed of varying lengths to accommodate different pelleting functions and equipment. Due to the highly volatile nature of the chemicals involved, this building was designed in the "Arsenal Style," with concrete fire-walls that extend through the roofline separating all rooms that housed explosives. This concrete skeleton supports exterior walls that are constructed of lightweight hollow tile blocks that were engineered to absorb and deflect the force of an explosion outward, away from the rest of the building. The broad hip-roof overhang provides shelter for circulation between rooms.

General Description: Building 2142 (20'-4" x 162'-4") is a one-story, gable-roofed structure located in the original East Loading Plant area. The exterior walls of the building are infilled with the common arsenal hollow red tile. The roof of the building has a 4:12 pitch and is covered with corrugated asbestos, with lightning "aerials" (rods) along the ridge line. The gable roof overhangs approximately five feet on each side to shelter the loading areas. An eight-pane window is located on each of the gable end walls. The plan of the building is clearly expressed on the exterior by extended fire walls and concrete column locations.

On the south side, 18 poured reinforced concrete columns are arranged in groups of three to frame six storage areas accessed by double blast doors and lighted by fifteen-pane hopper windows. On the north side, 18 concrete fire walls form 18 individual rooms, each accessed by double blast doors.

The 18 fire walls on the south side form 12 small rooms arranged in 6 pairs; a continuous corridor runs along the north side. Between each pair of small rooms is a corridor to an exterior door. The west end of the building contains one of these halls and the east end contains a hall and a toilet facility that extends the width of the building.